

REMARKS

Claims 1-20 are pending in the application. Claim 1 is amended by this amendment.

I. THE CLAIMS DEFINE PATENTABLE SUBJECT MATTER

The Office Action rejects claims 1, 3 and 5 under 35 U.S.C. §102(b) or in the alternative under 35 U.S.C. §103(a) over Ishida et al. (U.S. Patent 5,455,815). This rejection is respectfully traversed.

The Office Action asserts that Ishida discloses an MO disk and system of forming patterns thereon, citing col. 1, lines 45-50. However, Applicants respectfully submit that the above-quoted portion of Ishida does not disclose "a substrate formed without pitted information," and "the servo pattern being formed from magnetic marks formed in the magnetic layer," as recited in claim 1.

At col. 1, lines 46-50, Ishida discloses "after a portion of the magnetic film 112 corresponding to the pre-formatted data is partly removed using a known lithography technique, the magnetic film in the servo area is magnetized. Thus, the residual portions of the magnetic film or the removed portions are formed as the servo marks and the clock marks."

Ishida teaches to remove portions of the magnetic film 112, not all of the magnetic film 112. Thus, Ishida teaches to form pits either small or large, and use these pits as servo marks, and clock marks. Therefore, Ishida does not disclose "a substrate formed without pitted information," as recited in claim 1.

Furthermore, according to Ishida, the servo marks are the residual portions, or the removed portions, of the magnetic film. Therefore, Ishida does not disclose "the servo pattern being formed as magnetic marks formed in the magnetic layer," as recited in claim 1. Therefore, Ishida does not disclose the subject matter recited in claim 1.

Claim 1 further recites that management information "is reproduced from the magnetic layer by detecting a magnetic leakage field leaking from the magnetic marks." Ishida does not disclose or suggest such a feature, as Ishida does not disclose or suggest a reproducing apparatus.

Claims 3 and 5 depend from Claim 1. Thus, Ishida does not disclose or suggest the subject matter recited in claims 1, 3, and 5. Withdrawal of the rejection of Claims 1, 3, and 5 under 35 U.S.C. §102(b)/§103(a) is respectfully solicited.

The Office Action rejects claim 2 under 35 U.S.C. §103(a) over Ishida in view of McDaniel et al. (U.S. Patent 6,226,233). This rejection is respectfully traversed.

The Office action asserts that it would have been obvious to modify the base system of Ishida with the teachings of McDaniel. However, applicants respectfully submit that McDaniel does not remedy the deficiencies of Ishida with respect to claim 1.

McDaniel discloses a magneto-optical readback technique which can be applied to perpendicularly recorded media. For example, in col. 5, lines 65-67 through col. 6, lines 1-3, McDaniel discloses "this type of differential detection scheme measures the optical power in two orthogonal polarization components of the reflected laser beam 192, with a differential signal being a sensitive measure of the polarization rotation induced by the Kerr effect at the surface." Therefore, McDaniel explicitly discloses reading information back using only the magneto-optical effect in which the rotation of the polarization of a light beam is detected, and not, as recited in claim 1, "by detecting a magnetic leakage field leaking from a magnetic mark."

Claim 2 depends from claim 1. Thus, Ishida and McDaniel individually or in combination would not have rendered obvious the subject matter of claim 2. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully solicited.

The Office Action rejects claim 4 under 35 U.S.C. §103(a) over Ishida in view of the Official Notice. Applicants hereby request that references be provided to substantiate the Official Notice that alleges that detecting information using leakage magnetic fields is well known in the art. However, even if the Official Notice is substantiated, Applicants respectfully submit that the Official Notice does not remedy the defects of Ishida with respect to claim 1. In particular, the Official Notice does not supply "a substrate formed without pitted information," as recited in claim 1 and lacking in Ishida. Claim 4 depends from claim 1. Accordingly, Ishida and the Official Notice, individually or in combination, would not have rendered obvious the subject matter recited in claim 4. Applicants respectfully request therefore, that the rejection of claim 4 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claims 1, 2, 3 and 5 under 35 U.S.C. §102(e) or 35 U.S.C. §103(a) over McDaniel. The rejection is respectfully traversed.

Applicants submit that McDaniel does not disclose that management information is "reproduced from the magnetic layer by detecting a magnetic leakage field leaking from the magnetic mark," as recited in claim 1. As previously discussed, McDaniel discloses only a readback technique based on the magneto-optical effect, which does not detect a magnetic leakage field.

The Office Action asserts on page 5, that "the remaining functional ability of reproduction is considered inherently present since such must follow from the positive structure elements recited." However, Applicants respectfully submit that McDaniel does not inherently disclose that "management information is reproduced from the magnetic layer by detecting a magnetic leakage field leaking from the magnetic mark."

As is well known in the art, a variety of reproduction techniques exist for reproducing a magnetic pattern which has been imposed upon a disk. Methods such as, for example, the

magneto-optical technique using the Kerr effect, or the atomic force microscopic imaging technique are known in the art and may possibly be used.

As repeatedly stated by the Federal Circuit, "If the limitation is inherently disclosed... it must be necessarily present and a person of ordinary skill in the art would recognize its presence." Crown Operations International Ltd. v. Solutia Inc., 62 USPQ2d 1917, 1922-23 (Fed. Cir. 2002). Further, "The difference...may be minimal and obvious to those skilled in the art, nevertheless, obviousness is not inherent anticipation." Trintec Industries Inc. v. Top-U.S.A. Corp., 63 USPQ2d 1597, 1600 (Fed. Cir. 2002). Accordingly, while management information reproduced by detecting a magnetic leakage field leaking from the magnetic mark may be alleged to be possible or obvious to one of ordinary skill, this possibility does not translate into inherency. In fact, it is not possible to detect magnetic leakage fields using the apparatus disclosed in McDaniel. Thus, McDaniel does not disclose or suggest all the features recited in claims 1, 2, 3 and 5. Applicants respectfully request that the rejection of claims 1, 2, 3 and 5 under 35 U.S.C. §102(e) or §103(a) be withdrawn.

The Office Action rejects claim 4 under 35 U.S.C. §103(a) over McDaniel in view of Official Notice. Applicants respectfully request that references be provided to substantiate the Official Notice that alleges that the ability of having management data in this environment is well known. However, Applicants submit that even if the Official Notice is substantiated, the Official Notice does not remedy the deficiency of McDaniel with respect to claim 1. In particular, McDaniel does not disclose or suggest "detecting a magnetic leakage field leaking from a magnetic mark" recited in claim 1. Claim 4 depends from claim 1. Thus, McDaniel and the Official Notice, individually or in combination, would not have rendered obvious the subject matter recited in claim 4. Applicants respectfully solicit the withdrawal of the rejection of claim 4 under 35 U.S.C. §103(a).

The Office Action rejects claims 6-20 under 35 U.S.C. §103(a) over either Birukawa et al. (U.S. Patent 5,986,977) or McDaniel in view of either JP 10-021598 (the "598 patent") or Berg et al. (U.S. Patent 6,507,540) or alternatively Birukawa further in view of Ishida and further in view of either the 598 patent or Berg. The rejection is respectfully traversed.

The Office Action asserts on page 5, that "there is a magnetic reproducing head that appropriately detects the information as claimed." However, Applicants respectfully submit that neither Birukawa, McDaniel, the 598 patent nor Berg discloses or suggests "a second positioner for positioning the reproducing magnetic head at the target track during information reproduction, with the reproducing magnetic head using the detected magnetic leakage fields leaking from the magnetic marks to position to the reproducing magnetic head" (emphasis added), as recited in claim 6, or "detecting magnetic leakage fields leaking from the magnetic marks with the reproducing head and controlling the position of the reproducing magnetic head using the detected magnetic leakage fields during information reproduction," as recited in claim 16.

Birukawa describes a readback technique for a magneto-optical recording medium which provides irradiating laser light as a reading beam and uses a magnetic head. The magnetic head is used to impress a magnetic field that accelerates the transcription of the magnetization of the recording layer, into the reading layer, and uses the laser light to detect the orientation of the magnetic bit. Therefore, the readback technique specifically uses the magneto-optical effect. The magnetic head is not used to detect magnetic leakage fields leaking from the magnetic marks to position the reproducing head as recited in each of claims 6 and 16.

In addition, Applicants respectfully submit that it would not be possible to use the magnetic head to detect magnetic leakage fields, while simultaneously using it to impress a magnetic field on the medium, because the action of generating a magnetic field with a coil

requires the application of a voltage source or current source to the coil, in which condition the coil is unable to respond to the presence of a magnetic leakage field.

McDaniel, as discussed above, discloses only a readback technique based on the magneto-optical effect, and does not disclose "using the detected magnetic leakage fields" as recited in claims 6 and 16. Berg does disclose the detection of magnetic leakage fields, using, for example, a magneto-resistive head element as a reproducing head. However, Berg does not disclose or suggest a second positioner that uses the magnetic leakage fields to position the magnetic reproducing head. Similarly, the 598 patent also discloses the use of a magnetic reproducing head in combination with a magneto-optical reproducing head, however the 598 patent does not disclose a second positioner that uses the magnetic leakage fields to position the magnetic reproducing head.

The Office Action on page 6 states that positioning means/elements/ability are inherently contained in these documents in order for the appropriate recording/reproduction of the information. As discussed above, "inherently" means "necessarily". While it is well known in the art that there are a variety of ways of supplying an error signal to those positioning means, there is not disclosure in the applied references that necessarily uses the detected magnetic leakage fields leaking from the magnetic marks to position the reproducing magnetic head. Accordingly, one of ordinary skill in the art is not directed or motivated by any teaching to use the magnetic leakage fields for positioning purposes. Therefore, the subject matter recited in claims 6 and 16 is not rendered obvious by any combination of the cited references.

In view of the above, Applicants respectfully submit that the applied references, individually or in combination, would not have rendered obvious the subject matter recited in claims 6 and 16. Claims 7-15 depend from claim 6, and claims 17-20 depend from claim 16. Thus, the applied references would not have rendered obvious the subject matter recited in

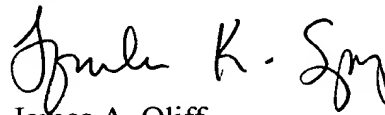
claims 6-20. Accordingly, Applicants respectfully request that the rejection of claims 6-20 under 35 U.S.C. §103(a) be withdrawn.

II. CONCLUSION

In view of the foregoing remarks, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Petition for Extension of Time

Date: **May 21, 2003**

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